

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A lithographic projection apparatus, comprising:
a radiation system configured to provide a beam of radiation;
a support configured to support a patterning device, the patterning device configured to pattern the beam according to a desired pattern;
a substrate table configured to hold a substrate; and
a projection system configured to project the patterned beam onto a target portion of the substrate, wherein a space in the radiation system and/or projection system apparatus comprises a composition to remove a contaminant from a surface of the apparatus, the composition containing (a) and (b), wherein (a) is one or more perhalogenated C₁-C₆ alkanes and (b) is one or more compounds including one or more nitrogen atoms and one or more atoms selected from hydrogen, oxygen and halogen.
2. (Previously Presented) An apparatus according to claim 1, wherein the composition further contains at least one selected from:
(c) N₂;
(d) H₂; and
(e) one or more inert gases.
3. (Canceled)
4. (Original) An apparatus according to claim 1, wherein the one or more alkanes includes tetrafluoromethane.
5. (Original) An apparatus according to claim 1, wherein the one or more compounds includes one or more nitrogen hydrides.

6. (Previously Presented) An apparatus according to claim 1, wherein the one or more compounds includes at least one selected from ammonia, diazene, hydrazine and a salt thereof.
7. (Original) An apparatus according to claim 1, wherein the one or more compounds includes nitric acid.
8. (Previously Presented) An apparatus according to claim 1, wherein the composition further contains at least one selected from:
 - (c) N₂; and
 - (d) H₂.
9. (Original) An apparatus according to claim 1, wherein the one or more compounds includes nitrogen dioxide.
10. (Previously Presented) An apparatus according to claim 1, wherein the composition further contains at least one selected from:
 - (c) oxygen;
 - (d) hydrogen; and
 - (e) water.
11. (Previously Presented) An apparatus according to claim 1, wherein the beam passes through the space.
12. (Cancelled)
13. (Original) An apparatus according to claim 1, further comprising an activation device configured to produce reactive species of the composition.
14. (Previously Presented) An apparatus according to claim 13, wherein the activation device is configured to produce the reactive species by exciting molecules, or dissociating molecules, or both exciting and dissociating molecules, of the one or more alkanes, or the one or more compounds, or both the one or more alkanes and the one or more compounds.

15. (Original) An apparatus according to claim 13, wherein the activation device is one of a DUV source, an EUV source, a plasma source, an electrical field, a magnetic field, or an electron source.
16. (Original) An apparatus according to claim 13, wherein the activation device includes the radiation system.
17. (Original) An apparatus according to claim 1, wherein the composition is a gas, a solid, a liquid, or a beam of molecules.
18. (Original) An apparatus according to claim 1, wherein the composition is encapsulated in a microporous media.
19. (Previously Presented) A device manufacturing method, comprising:
providing a beam of radiation using a radiation system;
patterning the beam;
projecting the patterned beam of radiation onto a target portion of a layer of radiation-sensitive material at least partially covering a substrate; and
producing reactive species of a composition to remove a contaminant from a surface, wherein a space through which the beam passes comprises the composition containing (a) and (b), wherein (a) is one or more perhalogenated C₁-C₆ alkanes and (b) is one or more compounds including one or more nitrogen atoms and one or more atoms selected from hydrogen, oxygen and halogen.
20. (Previously Presented) A method according to claim 19, wherein producing the reactive species includes exciting molecules, or dissociating molecules, or both exciting and dissociating molecules, of the one or more alkanes, or the one or more compounds, or both the one or more alkanes and the one or more compounds.